

Amendments to the Claims

The following listing of claims replaces all prior listings, and all prior versions, of claims in the application.

Listing of Claims

1. (currently amended) A method for determining clinical and/or chemical parameters (S1) in a medium (10), characterized in that utilizing there are means (2) for transmitting coherent light waves (6) and means (4) for receiving light waves (8), the method comprising:
  - delivering at least a part of the transmitted light waves (6) is delivered into the medium (10), and
  - measuring with the means (4) for receiving light waves (8) measure at least a part of the light waves (8) reflected in the medium (10),
  - determining the parameters (S1) being determined on the basis of the properties of the transmitted and received light waves (6; 8).
2. (currently amended) Method according to Claim 1, characterized in that including tuning the frequency or wavelength of the coherent light waves (6) is tuned in accordance with characteristics of the parameters (S1) to be determined.
3. (currently amended) Method according to one of Claims 1 or 2, characterized in that Claim 1, including tuning the means (4) for receiving light waves (8) are tuned in frequency-selective or wavelength-selective fashion.
4. (currently amended) Method according to one of Claims 1 to 3, characterized in that Claim 1, including operating the means (2) for transmitting coherent light waves (6) are operated so as to generate wavelengths between 400 and 1400 nm.
5. (currently amended) Method according to one of Claims 1 to 4, characterized in that Claim 1, including determining cholesterol is determined

as parameter (S1) and/or that its according to concentration in the blood is determined.

6. (currently amended) A method for determining clinical and/or chemical parameters (S2) in a medium (10), ~~in particular according to one of Claims 1 to 5, characterized in that Claim 1, further utilizing~~ there are means (3) for transmitting microwaves (7a) and means (3) for receiving microwaves (7b), the method further comprising:

- delivering at least a part of the transmitted microwaves (7a) is delivered into the medium (10), and
- measuring with the means (3) for receiving microwaves (7b) measure at least a part of the microwaves (7b) reflected in the medium (10),
- determining the parameters (S2) being determined on the basis of the transmitted and received microwaves.

7. (currently amended) Method according to Claim 6, characterized in that including tuning frequency or wavelength of the microwaves (7a) to be transmitted is tuned in accordance with characteristics of the parameters (S2) to be determined.

8. (currently amended) Method according to Claim 6 or 7, characterized in that, wherein the means (3) for transmitting and receiving microwaves (7a, 7b) generate pulses of a duration between 83 and 133.3 ps.

9. (currently amended) Method according to ~~one of Claims 5 to 8,~~ characterized in that Claim 6, including determining glucose is determined as parameter (S2) and that its according to concentration in the blood is determined.

10. (currently amended) Method according to ~~one of Claims 1 to 9,~~ characterized in that Claim 1, including establishing a position of the a measurement path (100) in the medium (10) is established with the aid of the means (2) for transmitting coherent light waves (6) and the means (4) for

receiving light waves (8) and ~~that wherein~~ the determination of the parameters (S1, S2) is limited to the measurement path [REDACTED]

11. (currently amended) Method according to Claim 10, characterized in ~~that including operating~~ the means (2) for transmitting coherent light waves (6) are operated so as to generate light waves in the infrared region.

12. (currently amended) Method according to Claim 10 or 11, characterized in ~~that, including establishing~~ a time point of a measurement performed in the measurement path (100) is established on the basis of a specifiable time signal, in particular of the heart cycle.

13. (currently amended) An apparatus for carrying out ~~the a~~ method of one of Claims 1 to 12, for determining clinical and/or chemical parameters (S1) in a medium, the apparatus comprising: characterized by provision of a laser unit (2), a phototransistor unit (4), and a monitoring unit (1), the monitoring unit (1) being in operative connection with each of the laser unit (2) and the phototransistor unit (4).

14. (currently amended) Apparatus according to Claim 13, characterized in ~~that there is further comprising~~ a microwave unit (3) that is in operative connection with the monitoring unit (1).

15. (currently amended) Apparatus according to Claim 14, characterized in ~~that the wherein said~~ microwave unit (3) or its ~~has a~~ sending apparatus is, at least the sending apparatus of the microwave unit being supported movably in at least one plane, preferably in two planes.

16. (currently amended) Apparatus according to one of Claims 13 to 15, characterized in ~~that Claim 13, wherein~~ the phototransistor unit (4) exhibits a frequency-sensitive or wavelength-sensitive tuning mode.

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<sup>+</sup>Should be "(100)"? Translator.

17. (currently amended) Apparatus according to Claim 16,  
~~characterized in that wherein~~ the frequency or the wavelength of the waves  
(8) to be detected is tunable.

18. (currently amended) Apparatus according to one of Claims 13 to  
17, characterized in that Claim 13, wherein said monitoring unit establishes a  
time point of a measurement performed in ~~the-a~~ measurement path (100) can  
~~be established on the basis of a specifiable time signal, in particular of the~~  
heart cycle.